Future Energy Alternatives Focus Group

Sampling of Current Federal Solicitations

BAA 07-21
Agency: DARPA-DSO

Type: Presolicitation Notice

Due Date: This BAA will be through 29 February 2008.

Website: http://www.darpa.mil/baa/baa07-21.html

The mission of the Defense Advanced Research Projects Agency's (DARPA) Defense Sciences Office (DSO) is to identify and pursue high-risk/high- payoff research initiatives throughout a broad spectrum of the science and engineering disciplines, and to transform these initiatives into important, radically new military capabilities. To carry out this mission, DSO seeks research ideas and areas that might lead to innovations in science and engineering. Therefore, DSO is soliciting proposals for advanced research and development in a variety of enabling technical areas as described below.

Novel Approaches to Energy Technologies

Specific areas of interest include, but are not limited to:

- **Technologies that dramatically reduce the logistics and/or weight burden of energy production/utilization during military deployment;**
- **New approaches to engine designs that are non-heat based;**
- **Novel ideas in the chemical extraction of energy; and**
- **Novel and new non-carbon based fuel sources.**

RFI-08-01-PKPA INVENT Architecture Request for Information (RFI)
Agency: AFRL/PRPA

Type: RFI

Due Date: 3:00 pm Eastern Standard Time 28 November 2007

Website: http://fs1.fbo.gov/EPSData/USAF/Synopses/904/Reference-Number-RFI-08-01-PKPA/RFI-08-01-PKPA.doc

The Air Force Research Laboratory, Propulsion Directorate, Power Division, Plans and Analysis Branch, (AFRL/PRPA) is seeking transition opportunities for propulsion, power and thermal management subsystems, with a particular emphasis in the interfaces and energy management between these Air Vehicle subsystems. AFRL/PRPA has led significant research and development efforts for various components for these subsystems. This work may be of significant interest to developers of propulsion, power and thermal management subsystems due to the issues current Air Vehicles are encountering in the area of power and thermal management and the challenges future vehicles will bring to be able to achieve the capabilities required.

Advanced integrated thermal and power management concepts are sought which offer advantages on one or all of the platforms described previously. When possible these benefits should be quantified in terms of the KPPs and FOMs. Adaptive approaches which can optimize vehicle level thermal management as a function of mission scenarios (ground idle, supercruise, high efficiency loiter, descent) are preferred. Thermal and power management strategies which effectively utilize ADVENT engine configurations are desired, though concepts based on alternative engine configurations will be accepted. While integrated approaches are desired, it is anticipated that some distributed or ancillary thermal management systems might be necessary and information regarding their application is desired. These systems may include: 2-phase cooling, high temperature lift, thermal energy storage/loop heat pipe, air cycles, and high flux motor drive thermal management.

DE-PS02-08ER08-01 Continuation of Solicitation for the Office of Science Financial Assistance Program
Agency: U.S. Department of Energy/Office of Science

Type: Grant

Due Date: 9/30/08 8PM Eastern time

Website:https://ecenter.doe.gov/iips/faopor.nsf/UNID/40E56992874167AC852573690049C661?OpenDocument

The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Basic Energy Sciences, High Energy Physics, Nuclear Physics, Advanced Scientific Computing, Fusion Energy Sciences, Biological and Environmental Research, and Workforce Development for Teachers and Scientists.

SBIR Hydrogen, Fuel Cells, and Infrastructure Technologies
Agency: DOE/SBIR

Type: Funding Opportunity Notice

Due Date: November 27, 2007, 8:00 p.m. EST.

Website: http://www1.eere.energy.gov/hydrogenandfuelcells/mypp/pdfs/production.pdf

DOE has issued a Small Business Innovation Research (SBIR) Phase I funding opportunity notice that includes a hydrogen, fuel cells, and infrastructure technologies topic.

The SBIR subtopic are:

a. **Hydrogen from waste,**
b. **Development of a sulfur dioxide electrolyzer for the hybrid sulfur hydrogen production process,**
c. **Bio-fueled solid oxide fuel cell, and**
d. **Manufacturing of bipolar plates.**

Phase I grants up to $100,000 will be competitively awarded for evaluating the commercial potential of various technologies.

UNCONVENTIONAL GAS AND OTHER PETROLEUM RESOURCES PROGRAM, 2007

Agency: RPSEA

Type: Solicitation

Due Date: 12/03/2007, 4:00 PM Central Time

Website: http://www.rpsea.org/attachments/contentmanagers/43/RFP2007UN001%2010-18-07%20Final.pdf

The objectives are defined in terms of the resource (shales, coal, tight sands), and the level of field development category (existing, emerging and frontier). All three resources are important but gas shales, the most difficult and least developed, was identified during this process as the top priority (although tight gas sands have more technically recoverable reserves). The three development categories are:

- **Existing - Active development drilling and production**
- **Emerging - Formations, depth intervals, or geographic areas from which there has been limited commercial development activity and very large areas remain undeveloped.**
- **Frontier Area - Formations, depth intervals, or geographic areas from which there has been no prior commercial development.**

RFP2007SP001 SMALL PRODUCER PROGRAM
Agency: RPSEA

Type: Solicitation

Due Date: 12/03/2007, 4:00 PM Central Time

Website: http://www.rpsea.org/attachments/contentmanagers/43/RFP2007SP001%2010-18-07%20Final.pdf

Identify and then demonstrate technologies, processes and tools, the application of which would substantially increase, in an environmentally sound manner, commercial production and ultimate recovery from the established reservoirs (or undiscovered/marginal reservoirs) associated with the currently or formerly producing assets of small producers.

The scope of this solicitation includes development of tools, techniques and methods whose application would substantially increase commercial production and ultimate recovery from established mature fields, including both currently producing and inactive fields. Reducing risk is a key – thereby reducing the cost and improving margins. Improved field management, best practices, and lower cost tools (including software) are all within the scope of this program.

Projects might include new technologies, or involve creative application of existing technologies.

Examples of projects might include:

• Development of approaches and methods for water management, including produced water shutoff or minimization, treatment and disposal of produced water, fluid recovery, chemical treatments and minimizing water use for drilling and stimulation operations.

• Development of methods for improving the oil and gas recovery factor.

• Development of techniques that will extend the economic life of a reservoir.

• Development of methods to reduce field operating costs, including reducing production related costs as well as costs associated with plugging and abandoning wells and well site remediation. Consideration will be given to those efforts directed at minimizing the environmental impact of future development activities.

• Development of cost-effective intelligent well monitoring and reservoir modeling methods that will provide operators with the information required for efficient field operations.

• Development of improved methods for well completions and recompletions, including methods of identifying bypassed pay behind pipe, deepening existing wells, and innovative methods for enhancing the volume of reservoir drained per well through fracturing, costeffective multilaterals, in-fill drilling or other approaches.

• Documented field tests of emerging technology that will provide operators with the information required to make sound investment decisions regarding the application of that technology in the targeted fields and elsewhere.

• Maximizing the value of existing data through collecting and organizing well and field data from multiple sources in a readily accessible and usable format. Use of data mining methods to extract information from old records and develop a database of information regarding mature properties that attracts additional development investment.

• Extending the commercial life of a producing well by identifying and ranking those candidates that would benefit the most from deployment of new technologies.

• Creative capture and reuse of industrial waste products (CO_2, produced water, excess heat) to reduce operating costs or improve recovery.